

IV. "Anatomical Notices." By Professor ANDREW RETZIUS, of Stockholm. Extracted from a Letter to Dr. SHARPEY, dated 10th May, 1855. Communicated by Dr. SHARPEY, Sec. R.S. (*Translation.*)

"1. *On the Form of the Cranium in the Embryo.*

"So far as I am aware, due attention has not hitherto been given to the different forms presented by the cranium in its earlier stages of growth. In the skeletons of early human embryos to be seen in most museums, the imperfectly ossified cranium is for the most part shrunk up and disfigured. To obtain a correct view of the form of the cranial cavity, I first remove the skin, fascia and muscles; I then, by injecting water through the vertebral canal, thoroughly wash out the soft brain and spinal cord; and lastly, fill the cerebro-spinal cavity with quicksilver or with melted tallow, taking care not to distend it over-much. The opening in the vertebral canal is to be stopped with a little plug of wood, and the preparation allowed to dry.

"In the skeleton of a human embryo of the fourth month, prepared in this way, the occipital bone was found to have the form of a funnel, the narrow part of which passed into the vertebral canal, as represented in the accompanying figure 1.

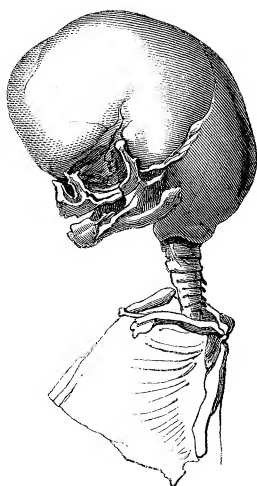
"It thus appears that the human occipital bone, in its early condition, approaches in form to the vertebral canal, and in this respect also it resembles the occipital bone in several quadrupeds, which so obviously represents the first cephalic vertebra.

"For the sake of comparison, I divided the skull of another embryo of the same age into two halves by a vertical median section, washed out the brain and examined the preparation while it lay immersed in weak spirit of wine in a shallow glass capsule. The occipital bone had the same funnel-shape as in the former case. As development advances, the funnel-like form is gradually lost, whilst, on the other hand, the bone appears more deepened or tubular the earlier the embryo to which it belongs. The same is true of quadrupeds.

"In the beautiful figure of the embryo-skull, given in Kölliker's 'Microscopische Anatomie,' B. II. taf. 3. fig. 2, the downward pro-

longation of the occipital bone appears much less, but whether less than it ought to be I cannot venture to say, as I happen to have no specimen of that age (one month older than the one I have given) with which to compare the figure.

Fig. 1.



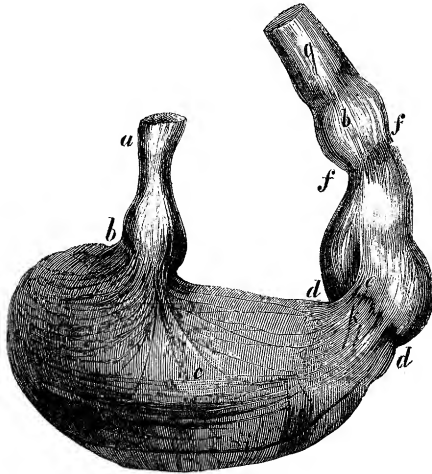
“The early form of the occipital bone I have here described becomes easily intelligible when we remember that the shape of the skull is regulated by that of the brain; and that as the latter is at first greatly elongated, and its ganglia imperfectly covered, the cranium must then also have a correspondingly elongated form.

“2. *On the Antrum Pylori.*

“I have now for some time directed my attention to the determination of the true form of the stomach, and have become more and more convinced that the antrum pylori of the older anatomists (‘Pfortnerhöhle’ of the Germans) is really a special compartment of the general cavity. I have had occasion to make numerous examinations of the stomach in the bodies of middle aged women who died in the hospital, and found the form to be nearly as represented in figure 2, where *dd*, *ff* indicate the antrum pylori. This part is also distinguished by greater thickness of its muscular coat, more strongly

developed glands, and the presence of the well-known *plicæ fimbriatæ*. The commencement of the duodenum also forms a special rounded cavity, which I should propose to name the *Antrum Duodeni*, and which is characterized internally by the absence of *valvulæ conni-*

Fig. 2.



ventes, and by the dense array of Brunner's glands beneath its mucous membrane. This part constitutes what has been called the fourth stomach of the Porpoise, and some other Cetaceans. I may observe that the so-called ligaments of the pylorus are connected with the formation of the antrum pylori.

“ 3. *On the Fascia Superficialis.*

“ The accounts usually given of the fascia superficialis are for the most part very imperfect. As far as I can judge, this fascia is in many parts of the body a constant membrane, and really appertains to the skin, as may be particularly well seen in the integuments of the back. The cutaneous muscle of quadrupeds, in most cases, probably arises out of this fascia; the muscular fibres being deposited, as I conceive, in the midst of its substance, and finally becoming covered by it as their perimysium. In this way too, I imagine the *platysma myoides* and *epicranius* to be formed.”

Fig. 1.



Fig. 2.

